

## EXTINCTION RATIO CONTROL OF A SEMICONDUCTOR LASER

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### Abstract of the Disclosure

The present invention provides a method and apparatus, such as an integrated circuit, to control the extinction ratio of a semiconductor laser and maintain the extinction ratio substantially constant at a predetermined level. Apparatus embodiments  
10 include a semiconductor laser, a modulator, a photodetector, and an extinction ratio controller. The semiconductor laser is capable of transmitting an optical signal in response to a modulation current. The modulator is capable of providing the modulation current to the semiconductor laser, with the modulation current corresponding to an input data signal. The photodetector, which is optically coupled to the semiconductor laser, is  
15 capable of converting the optical signal into a photodetector current. The extinction ratio controller, in response to the photodetector current, is capable of adjusting the modulation current provided by the modulator to the semiconductor laser to generate the optical signal having substantially a predetermined extinction ratio.